

ABSTRACT

Embodiments provide methods and apparatuses for chemical vapor depositing a dielectric film, and various structures, devices, and systems, which incorporate dielectric elements formed from the dielectric film. The method includes heating a chamber,
5 within which a substrate is located, to a temperature sufficient to thermally decompose an oxidizing component. A gas flow is passed over the substrate to deposit the dielectric film. To form an oxide, the gas flow includes a silicon bearing component, the oxidizing component, and a chloride component. The silicon bearing component and the chloride component are distinct from each other. To form an oxynitride, the gas flow further
10 includes an ammonia component. The silicon bearing component can be substituted by a tantalum bearing component or an aluminum bearing component, to form other types of oxynitrides.

"Express Mail" mailing label number: EV415950095US

Date of Deposit: February 27, 2004

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